

## ABSTRACT

In a fiber-optical WDM-transmission system channel switching is used to achieve a high transmission capability and/or quality in spite of the polarization mode dispersion experienced by pulses propagating along an optical fiber. The WDM-channels having best transmission properties among the available WDM-channels are used to transmit high-priority traffic, the remaining channels being used for e.g. low-priority traffic. The high- and low-priority information arrives on input lines and is switched in a cross-connect element coupling the high-priority information to the best channels and the other information to the other channels, the channels being combined in a multiplexer to be injected in the transmission fiber. The light propagating in the fiber is divided into the respective channels by a demultiplexer which are converted to electrical signals by receivers and provided to a cross-connect element switching the channels carrying the high-priority information to output lines and those carrying the low-priority information to other output lines. The receivers provide a measure of the transmission quality of the received channels to a control unit which sends signals to the cross-connect elements controlling the switching thereof.

(Fig. 5)